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Structured Writing and Humor: The use of Humor as a Component in Structure Writing and its Effect on Health Symptoms and Perceived Stress

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STRUCTURED WRITING AND HUMOR

The Use of Humor as a Component in Structured Writing And Its Effect on Health Symptoms and Perceived Stress

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APPROVAL SHEET

This thesis is submitted in partial fulfillment of

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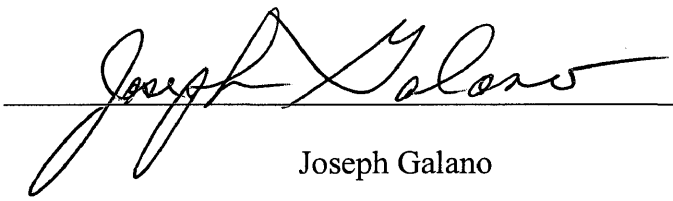

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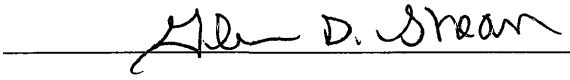

Glenn D. Shean

In Memory of "John" Stanley Woodring, 1921-1999

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ABSTRACT

The current study investigated the predictors of health symptoms and perceived stress, as well as the effect of having a humor component in a self-regulated structured writing task about stress. In this study, 43 college students completed 3 (20 minute) self-regulation writing tasks, with 21 students in the self-regulation task and 22 in the self-regulation task with a humor component. Comparisons between the two groups revealed a significant interaction of group by time for reported health symptoms, whereas there was no significant difference on perceived stress or affect scores. For health symptoms, the group with the humor component showed improvement from time 1 to time 2 compared to the group with the self-regulation writing task alone. The current research introduced a new manipulation and further research is necessary to validate the use of humor in structured writing.

STRUCTURED WRITING AND HUMOR

INTRODUCTION

The deleterious effects of stress have long been a topic for scientific investigation, with psychological stress being a factor in the etiology and progression of many health problems. Indeed, diseases such as cardiovascular disease, diabetes, and cancer have been linked to stress (e.g., Kiecolt-Glaser & Glaser, 1995; Sherwood & Turner, 1995; Stone, Mezzacappa, Donatone, & Gonder, 1999; Surwit et al., 2002).

There are many factors that influence stress and illness, which can either exacerbate or alleviate problems. Humor style and social support are two psychosocial factors that have been examined for potential direct health-sustaining properties and indirect, stress-buffering effects (e.g., Cohen & Willis, 1985). In addition, written emotional disclosure about trauma or stress has been found to be beneficial for both physiological and psychological well being (for review see Smyth, 1998).

Stress

Stress is a challenge or threat to the internal balance or homeostasis of the body (e.g., Lovallo, 1997). When a threat or challenge arises, the body must compensate for change in the environment, this is the purpose of the stress response. There is a distinct pattern of response, which Hans Selye termed the General Adaptation Syndrome (GAS). Commonly the stress response is synonymous with the term "fight or flight," know as the prototype stress response. It is intense, increases the use of energy, and is responsible for behavioral and physiological changes. In addition, there is both a strong emotional and

psychological component. The difference between "fight or flight" and other types of physical stress or eustress (positive stress) is the negative affectivity that is involved, particularly anxiety, fear, and anger.

For the purposes of this study, it is necessary to distinguish between two different types of stressors. In general terms, there are differences for physical versus psychological stress. Physical demands are bottom-up processes, that is, signals from the periphery travel to the brain. For instance during exercise, oxygen and glucose are being used up, and the brain is signaled that more of these resources are needed.

Psychological stress is a top-down process that often begins with our perceptions. It can include the loss of a loved one, failure to achieve a goal, or a disappointment in a relationship. The psychological reaction that a person has to stress can be more important than the stressful event itself (Cohen, Kamarck, & Mermelstein, 1983; Lovallo, 1997). The perception of a threat sometimes becomes more of a problem because the stress response is efficient for short-term situations; however, psychological stress can become a chronic issue. In this case, the stress response becomes the problem rather than the solution.

As stated, the psychological component of the stress response, which can be a part of the fight or flight response, is a top-down process. Higher centers of the brain respond to perceptions and signal the periphery. This involves descending activation via the frontal cortex and emotion centers of the brain (especially amygdala and hippocampus).

Direct physiological effects. In the body, the results of stress are systemic. The nervous and endocrine systems are both highly activated during stress. The sympathetic

nervous system (SNS), part of the autonomic nervous system, controls the stress response in all individuals. Generally, during a stressful circumstance, the autonomic nervous system suppresses parasympathetic activity (energy storing and conserving), while increasing sympathetic, energy expending activity. The endocrine system also plays an important role in the stress response releasing hormones that regulate functions and act in synergy with the actions of the nervous system.

Cortisol, a glucocorticoid, is a major stress hormone in humans; it is capable of affecting every major organ system in the body (Lovallo, 1997). For instance, it leads to decreased inflammation and increased glucose in the blood stream. For an average individual cortisol is necessary and beneficial. Without cortisol, humans would be much less able to cope with extreme adversity (Pugh, Tremblay, Fleshner, & Ruby, 1997). However, cortisol becomes detrimental when the stress response becomes chronic and can contribute to problems, such as insulin resistance.

The Perception of Stress

Individuals continually evaluate stressors they encounter and generate behavioral strategies to deal with them. An individual's perception of stress is important because the level of appraised stress and the objective occurrence of events determine the response to stress (Cohen, Kamarck, & Mermelstein, 1983). In fact, perceived psychological stress alone can trigger the stress response.

Emotions are often associated with stress and influence how circumstances are perceived. Lazarus and Folkman (1984b) constructed a model for psychological stress based on the appraisal of stress. First, it is theorized, that individuals evaluate events for

their threat value, this process is labeled Primary Appraisal. Then, Secondary Appraisal takes place; if an event is deemed stressful, then an individual evaluates his or her options for coping with the perceived threat. These appraisals determine the nature and magnitude of the reaction to stress; appraisals may be automatic, conditioned responses, or more cognitive and planned. The stress response is based on perception. The threat value depends on the interpretation of the event and the meaning for the individual. There is a great deal of variation in how individuals cope with stress.

The effect of an individual's perception of his or her stress is important. It is the level of appraised stress, not the objective occurrence of events, which determines the response to stress (Cohen et al., 1983). The physiological stress response modulates psychological factors. Many factors influence whether or not an event is perceived as stressful; these include loss of control, unpredictability, inability to cope, and lack of support (Cohen et al., 1983).

Stress can also be examined as an external variable such as life events. The disadvantage to examining life events is that one fails to account for individual differences in response to environmental events. However, measures of perceived stress do correlate with life events (Cohen et al., 1983).

Social Support

Social support is the existence and availability of individuals on whom a person can rely. These individuals include those who value, care for, and love a person (Sarason, Sarason, Potter, & Antoni, 1985). Sarason et al. (1985) maintain that the two essential

factors in support are (a) individuals have a sufficient number of supporters and (b) individuals are satisfied with the level of support they receive.

The direct health-sustaining properties of social support lead to a general enhancement of health. That is, social support can be beneficial to health and well being regardless of stress level. Individuals with high levels of social support tend to have a stronger sense of belonging and higher esteem than those lacking support (Cohen & Willis, 1985).

Cohen and Willis (1985) mainstreamed the stress-buffering hypothesis. According to this idea, support protects from stress, in part because the appraisal of stress may be changed by support. If the buffering hypothesis is correct, social support should be most effective during periods of high stress. In many studies, the stress-buffering effects of social support are evident (e.g., Lepore, Evans, & Schneider, 1991; Kirschbaum, Klauer, Sigrun-Heide, & Hellhammer, 1995; Roy, Steptoe, Kirschbaum, 1998).

Negative Affect

Many variables influence stress and reporting of health symptoms. Neuroticism and negative affect are often used as nearly synonymous terms; negative affect can be defined as a predisposition to distress and negative mood states (Watson, Clark, Tellegen, 1988). Individuals who are high in negative affect tend to ruminate on problems more so than those with moderate or low negative affect. Negative affect and positive affect are not part of the same continuum, that is, being low in negative affect does not necessitate

that one is high in positive affect. They are measured independently (Watson, Clark, & Tellegen, 1988; Watson & Pennebaker, 1989).

Negative affect has a stronger relationship to subjective health factors than objective measures of health. According to Watson and Pennebaker (1989) negative affect is an important psychosocial variable "because self-report measures of stress and health both contain a significant NA component, correlations between such measures likely overestimate the true association between stress and health" (p. 234). Martin (2001) also warns of the confounding influence of negative affect and neuroticism when looking at stress, health symptoms, and humor.

Humor

Stress does not occur in a vacuum and there are many other psychological variables that can influence stress, such as humor. Humor and laughter may have both physiological and psychological impacts on stress. Psychological influences of humor can occur via different pathways. Humor may have benefits based on the positive emotional state that it can induce. Another means by which humor may be beneficial is through its role in cognitive appraisal (Martin, 2001).

The relationship between stress and humor is not always clear. For instance, Nezu, Nezu, and Blissett (1988) found evidence for the buffering effects of humor on stress, but only for depressive symptoms, not for anxiety. In addition, many studies have failed to find significant relationships between self-report stress measures and humor scales, but progress is being made with the work of Martin, Puhlik-Doris, Larsen, Gray, Jeanette, and Weir (2003).

Sense of humor refers to a specific trait for an individual (Martin, 2001). The present study used a recently developed sense of humor measure, which attempts to identify adaptive versus maladaptive humor styles. Martin et al. (2003) examined different kinds of humor styles in individuals, in an effort to clarify conflicting findings in past humor research. According to research on humor styles, humor can have a positive or negative connotation, depending on a person's humor style. In addition, humor style can be distinguished based on its use towards self or others.

Based on the set of distinctions noted above, Martin et al., (2003) identified four humor styles, these include (a) self-enhancing, (b) affiliative, (c) self-defeating, and (d) aggressive. Self-enhancing humor is a positive coping mechanism, benefiting the individual. Affiliative humor can also be a beneficial coping strategy, but is carried out in relation to others, rather than just the self. Self-defeating humor is the negative counter-part to self-enhancing humor, whereby a person makes others laugh by degrading themselves. Finally, aggressive style is degrading others for the benefit of the self. Thus far, self-enhancing humor style has been found to have the most beneficial coping properties, with affiliative humor having positive impact as well (Martin, 2001; Martin et al., 2003). Furthermore, self-enhancing humor style was the only style to be a significant predictor of perceived stress (Gerber & Ventis, 2004).

In addition to the previously mentioned benefits of humor, it may also serve to buffer stress by enhancing social support through additional indirect mechanisms. For instance, individuals with a socially desirable sense of humor may find it easier to make and keep friends (Martin, in press).

Emotional Disclosure/Structured Writing

Writing about stressful events has a positive influence on health in most individuals (e.g., Cameron & Nicholls, 1998; Stone, Smyth, Kaell, & Hurewitz, 2000). In addition, research has shown that structured writing can moderate the impact of depressive symptoms, which are related to stress (Lepore, 1997). Written emotional disclosure is also easily accessible and provides a means for expression when verbal communication is not feasible (Smyth, 1998).

Although the current research focuses on stress rather than severe trauma, the foundation for this project lies is the research on trauma disclosure literature started by Pennebaker and colleagues (Pennebaker & Bealls, 1986). The procedure typically involves (a) a control group that writes about trivial topics, (b) an experimental group that writes about their deepest thoughts and feelings about a trauma they experienced, (c) several writing session that are generally 20 minutes or more in duration, and (d) comparisons between groups on various health and psychosocial measures. Often there is a temporary increase in negative mood that soon dissipates or even improves, while health benefits remain (e.g., Kelley, Lumley, & Leisen, 1997; Smyth, 1998). Numerous studies have shown health benefits for the written disclosure paradigm, such as decreased reports of health symptoms and fewer visits for medical care (e.g., Cameron & Nicholls, 1998; Esterling, Antoni, Fletcher, Margulies, & Schneiderman, 1994; Greenberg & Stone, 1992; Greenberg, Wortman, & Stone, 1996; Kelley, Lumley, & Leisen, 1997; Pennebaker & Beall, 1986; Pennebaker, Colder, & Sharpe, 1990; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Sloan & Marx, 2004; Smyth, 1998; Stanton et al., 2002).

The relationship between written disclosure and health benefits has been a robust finding in the literature (Smyth, 1998). Smyth conducted a meta-analytic review of the written disclosure literature, both published and unpublished. The meta-analysis included various types of outcomes and "health was enhanced in 4 outcome types – reported physical health, psychological well being, physiological functioning, and general functioning [such as grade point average]." (p. 174). For the four outcome types, Smyth found that the overall mean effect size for written disclosure was .47 standard deviation units. The only outcome examined that was not significantly enhanced by written disclosure was health behaviors. Other pertinent findings include that higher effect sizes were positively related to having a higher percentage of males in a study and spacing the writings tasks out over longer periods of time.

There are many examples of research that has found significant health benefits among individuals who write about trauma and stress. For example, Pennebaker, Kiecolt-Glaser, & Glaser (1988) conducted a sophisticated study examining the written disclosure paradigm and physiological measures of immune function, as well as records of health center visits. In their study, 50 college students completed either a trauma disclosure or mundane writing task for 4 consecutive days. Immune function was evaluated by examining white blood cell (lymphocyte) response to substances that are foreign to the body (mitogens). They found that individuals in the trauma disclosure condition had a more positive immune reaction to the mitogens, in addition to less health center visits, and lower subjective distress.

The health benefits from written disclosure are not limited to college students, positive results have been found in medical populations, as well. For example, Kelley, Lumley, & Leisen (1997) found that individuals with rheumatoid arthritis, an autoimmune disease, had improvements in physical functioning and affect, 3 months after the trauma disclosure task took place. Interestingly, there were no such improvements evident 2 weeks after the task. Additionally, those in the disclosure condition experienced an increase in negative mood directly after the writing task.

In a similar population, Smyth, Stone, Hurewitz, and Kaell (1999) studied the effects of written disclosure in patients with asthma and rheumatoid arthritis. Participants who wrote about stressful experiences versus those who wrote about time-management topics showed more improvement at a 4-month follow-up. However, when these data were examined for potential mediators (such as affect, stress, and social support) and underlying mechanisms, there were no definitive results (Stone, Smyth, Kaell, & Hurewitz, 2000).

Although no evidence for one specific mechanism has been found, several mechanisms have been posited for why written disclosure works. Two common theories involve inhibition (Pennebaker & Bealls, 1986; Pennebaker et al., 1988, Pennebaker et al., 1990) and exposure (Lepore, 1997).

According to Pennebaker and colleagues (1988, 1990), traumatic and stressful experiences can be difficult to process. Events that cause a high level of stress are often complex, unexpected, and may be difficult to disclose to others. If an individual cannot or will not share their experience, thereby failing to assimilate the event into their sense of

identity, they may have difficulty with recurring thoughts about the issue. Therefore, inhibiting thoughts about this stressful event may become necessary. Language can be an effective way to understand and assimilate events, be it verbal or written. If a person does not feel comfortable enough to verbally express their thoughts, writing about it can provide an outlet for communicating these issues. After confronting issues through writing, participants may no longer be actively inhibiting cognitions and feelings about the trauma. Participants may also be able to reframe an event and find meaning in it, assimilating it into their identity through the writing process.

Alternatively, some researchers propose that the benefits of written disclosure can be attributed to increased exposure to the stressor, which can attenuate the impact of the stressor. Sloan and Marx (2004) point out that if inhibition were essential to the mechanism, writing about undisclosed traumas would be most beneficial. However, there is no evidence in the research that supports the benefit of undisclosed versus disclosed trauma. Moreover, the sequencing of outcomes in written disclosure is congruent with exposure theories. There is a consistent initial increase in negative affect after the written disclosure, followed by an overall improvement over time. Written disclosure may provide exposure to aversive stimuli and through repeated exposure, the aversive associations with the event are diminished.

In line with the rationale that exposure may be the underlying mechanism in written disclosure; Lepore (1997) proposes that structured writing leads to diminished impact not diminished frequency of intrusive thoughts. Lepore's research on the written disclosure paradigm, applied to graduate entrance exams, showed that the negative

emotional effects of intrusive thoughts were attenuated even though the number was not reduced in comparison to a control group. According to this research, the written disclosure diminishes the impact of thoughts related to the stressor.

Regardless of the underlying mechanism, there are robust findings related to the benefits of written disclosure. This area of research has been applied to an assortment of situations and populations. Cameron and Nicholls (1998) modified the written disclosure paradigm and incorporated self-regulation into the writing task in order to have participants cope with stressful events by writing about experiences and emotions in a coherent manner. The goal is to enhance self-regulation processes. In addition to the traditional paradigm, participants are asked to write about ways that they can cope.

Cameron and Nicholls (1998) compared the standard disclosure task, self-regulation task, and control task in 134 college freshmen. When comparing the self-regulation group and disclosure group to the control, it was found that the self-regulation group had better, more constant levels of negative mood and college adjustment. In addition, students scoring high on pessimism faired better in the self-regulation task, these individuals had a reduced number of medical visits compared to those in the control task. This was not evident in the disclosure task. They propose that pessimists may not react to the disclosure task as positively as optimists and the added guidance to focus on coping in the self-regulation task may be more beneficial for those high in pessimism.

Current Research

The current study is a continuation of the author's previous work, examining the relationship between stress, humor style, social support, and health symptoms. In

addition, this study features a structured writing component. The relationship among health symptoms, stress, and humor is an area that warrants further study. As stated, many studies have failed to find significant relationships between stress measures and general humor scales.

This study has two primary aims (a) to further investigate the predictor variables for health symptoms and perceived stress, and (b) to explore the effect of using humor as a component in self-regulated structured writing about stressors. In order to meet the latter aim, there will be a modified self-regulation structured writing condition and an experimental condition of structured writing, which includes a self-enhancing humor component. The task of writing about stressors has been applied successfully to a variety of populations such as individuals with asthma and rheumatoid arthritis (e.g., Kelley, Lumley, & Leisen, 1997; Smyth, Stone, Hurewitz, and Kaell, 1999) and contexts such as graduate entrance exams and grade point average (e.g., Lepore, 1997; Lumley & Provenzano, 2003). Because the procedure has been generalizable, it seems reasonable that adding a humor component could produce additional positive outcomes.

Based on prior literature, it is hypothesized that stress and negative affect will be significant predictors of health symptoms; while, humor style and social support will predict stress. Specifically, self-enhancing and affiliative humor styles will be inversely correlated with stress and health symptoms. In addition, it is predicted that both structured writing groups will show moderate improvement in health symptoms, perceived stress, and negative affect, but improvements should be greater in the self-enhancing humor condition.

CHAPTER I

METHOD

Participants

In order to receive class credit in their introductory psychology course, 48 students from the College of William and Mary took part in this research project. The participants' ages ranged from 18 to 22 years ($M = 18.96$) with the majority being freshmen (73%). Although the exact numbers for race were not ascertained, participants were primarily Caucasian. In addition, sex was nearly equivalent for the total number of participants (56% female and 44% male).

Initially, 50 students were registered for the experiment (25 in each group); however, one student did not show up and another student was under 18 and failed to have the proper consent from her legal guardian. In addition, five students who completed the first session did not complete the writing tasks and/or the second set of questionnaires for undisclosed reasons. Altogether, 43 participants completed the entire procedure and were included in the group comparisons.

Participants were treated in accordance with the ethical guidelines of the American Psychological Association. In addition, the project was approved by the Internal Review Board of the Psychology Department at the College of William and Mary. All information was kept confidential and informed consent was obtained from

each participant. Only the researcher had access to the surveys and structured writing tasks.

Materials

An informed consent form (Appendix A) was given to each participant before participation in the study. In addition, instructions were passed out to each participant (Appendix H). Lastly, a packet including six questionnaires was also given to each participant.

Physical Symptoms. The Cohen-Hoberman Inventory of Physical Symptoms (CHIPS; Cohen & Hoberman, 1983) was used to evaluate health (Appendix B). CHIPS consists of 33 common physical symptoms and each is rated for how much that problem bothered or distressed the individual during the past two weeks. Items directly related to psychological symptoms (e.g., felt nervous or depressed) are not included in the survey. However, the list does include some physical symptoms that could be viewed as psychosomatic (e.g., headache, weight loss). Each item is rated for how much that problem bothered or distressed the individual during the past two weeks. Symptoms are rated on a 5-point scale from "not at all bothersome" to "extremely bothersome."

Stress. The Perceived Stress Scale – 10 item (PSS-10; Cohen and Williamson, 1988) was used to measure the subjective stress-level for the past month as reported by the individual participants (Appendix C). The PSS-10 measures stress as the degree to which individuals find their lives to be unpredictable, uncontrollable, and overloading (Cohen et al., 1983). The PSS-10 has greater reliability than the original 14-item PSS,

which has coefficient alpha reliability listed as $r = .84, .85$, and .86 from three separate samples (Cohen et al., 1983).

In addition, the Life Experiences Survey (Sarason, Sarason, Shearin, & Pierce, 1987) was used to measure the number of stressful life experiences the person has recently encountered (Appendix D). This survey is a revision of the Social Readjustment Rating Scale developed by Holmes and Rahe (1967) and consists of 47 life events, plus an additional list of 10 events relevant to college students. Individuals mark the events they have experienced and rate the stressfulness of those events on a scale from –3 to +3. The LES has been shown to have greater validity than the original life events rating scale. In the LES, there is a distinction between negative and positive events. In addition, it allows for individual differences, in that those taking the survey can rate the level of impact a particular stressor had on their lives.

Humor. The Humor Styles Questionnaire (HSQ, Appendix E) measured an individual's perceived humor style in four subscales: a) affiliative, b) self-enhancing, c) self-defeating, and d) aggressive (Martin et al., 2003). The HSQ has shown adequate reliability, with Cronbach's alpha levels ranging from .77 to .81 for each subscale. Intercorrelations among the four subscales are moderate, ranging from .36 to .22. Test-retest reliability for the subscales ranges from .80 to .85 (Martin et al., 2003). In addition to using the Humor Styles Questionnaire for a survey, some of the items from the self-enhancing humor style subscale were adapted and used in the development of the humor component in the structured writing task.

Social Support. Support was measured using the Interpersonal Support Evaluation List – 12 Item (ISEL-12, Appendix F). The ISEL contains 12-items that present brief scenarios related to perceived social support. Test-retest reliability ranged from .63 to .70 over a six-week period (Cohen, 1985). Cronbach's alpha is reported as, $r = .88$ to .90.

Negative Affect. The Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988; PANAS) was used to examine negative affect. This scale can be found in Appendix G. Internal consistency coefficients range from .84 to .90.

Design

A mixed design was used for the writing experiment. The within-subjects variables were pre and post assessments of health symptoms, perceived stress, and negative affect. The between-subjects variable was the writing condition. The two writing conditions included (a) self-regulation, structured writing and (b) self-regulation structured writing combined with a self-enhancing humor component. See Table 1 for an overview of the project design.

Due to the time needed to complete the study, students were allowed to self-select their time slot. Thereby, the group assignment was not random. However, students were not aware that there was any difference in the time slot that they selected. The posted description of the study was the same for both groups.

TABLE 1

PROJECT DESIGN

Session 1	Structured Writing Three (20 minute) sessions	Session 2
Perceived Stress Scale (PSS)		PSS
Life Experiences Survey (LES)	Structured writing sessions on stressful events	LES formatted spaces to write in stressors
PANAS (for NA)		PANAS (for NA)
ISEL-12 (Social Support)	CONTROL: instructions to write for structured writing self-regulation procedure	- -
Humor Styles Questionnaire (HSQ)		- -
CHIPS (Health Symptoms)		CHIPS
[Informed Consent Form]	EXPERIMENTAL: instructions to write for structured writing self-regulation procedure, plus self-enhancing humor information	[Debriefing Sheet]
[Record Sheets]		- -
[Instruction Sheet]		- -
[Schedule Sheet]		- -

Writing Tasks

Self-regulation structured writing task. This writing task was adapted from guidelines in Cameron and Nicholls (1998), see Appendix H, Instructions A. There were two components to this task (a) disclosure about stressful events and (b) development of coping plans. In the first of three sessions, each participant was to write for 15 minutes on a stressful event. Then, for a final 5 minutes, they were asked to write about things they could do to better cope with this stressor. The task instructions were modified from the standard disclosure paradigm for the current research. Traditionally, individuals are asked to write about their deepest thoughts and feelings; however, in light of focusing on humor for the experimental group it seemed unreasonable to request that they write about extremely serious topics and then put them in the context of humor. For many individuals this would be a difficult task. Instead, they were asked to write about stressors.

In the first session of the study, students were instructed to follow the self-regulation directions. The instruction sheet was covered and students were able to ask questions as a group.

Self-regulation structured writing task with humor component. This writing task followed the same guidelines as those listed above for the modified self-regulation structured writing task (See Appendix H, Instructions B). The only difference was that addition of self-enhancing humor. The instructions for the writing task were devised from literature on humor. Self-enhancing humor has shown the most promise for health benefits, so relevant parts of the self-enhancing humor subscale of the Humor Styles Questionnaire were adapted and used in the instructions to participants (Martin et al.,

2003). The original instructions to participants were modified slightly after consultation with the research advisor (W. Larry Ventis, personal communication, 2004).

In the first session of the study, students were instructed to follow the self-regulation directions and they were instructed to put the stressor in the context of self-enhancing humor. The instruction sheet was covered and students were able to ask questions as a group.

Procedure

Participants met at a scheduled time in Millington Hall (Psychology Department) on the campus of the College of William and Mary. Students were handed an informed consent form, survey packet, instruction packet, and sample record sheet upon entering the room. Once all the students had arrived, there was a brief introduction to the topic of the study. They were told that they would be taking six surveys. The instructions (Appendix H) for the study were covered and there was time to ask questions. Then they were shown the schedule of the study (Appendix J), that is, that that day was session 1, then they would do three (20 minute) structured writing sessions over the next 14 days on their own and email the record sheets (Appendix I) to the researcher, then that they would come back for one final session.

Students then completed the informed consent form. Included on the form was a line for the participant to write their e-mail address if they wanted to receive a synopsis of the results for the study. Consent forms were collected for each student, and then the questionnaires were filled out. The survey completion took approximately 20 minutes. Each participant brought up their questionnaires, as they were finished. Participants were

told that the record sheets would be sent via email and the sheets were sent by the end of the day the first session occurred. In addition, e-mail reminders were sent out over the course of the study with a record sheet each time.

At the final session, students took the CHIPS, PSS, PANAS, and had space to write about stressors that occurred over the past two weeks (same format as LES). Each survey was the same as before except that the wording in the instructions was changed to the period over the past two weeks. As students finished, they were thanked for their time and were able to view a debriefing sheet. Once the results of the study were analyzed, students who indicated a desire to find out the results were sent an e-mail with a synopsis of the overall findings.

CHAPTER II

RESULTS

Five primary statistical analyses were performed using SPSS version 10 for Macintosh; these included two multiple regression analyses, one predicting health symptoms and one predicting perceived stress. In addition, for health symptoms, perceived stress, and negative affect, an analysis of covariance (ANCOVA) was run in order to compare group means at time 1 and time 2 between the modified structured writing task and the humor component structured writing task. An alpha level of .05 was used for all analyses (2-tailed).

Simple correlations are listed in Table 2. As is evident in the table, there are many significant results of interest. Health symptoms (as measured by CHIPS) were positively associated with negative affect, perceived stress and negative life experiences. In turn, perceived stress was positively related to negative affect, self-defeating humor style, and negative life experiences, while being inversely associated with self-enhancing humor style and social support (as measured by the ISEL). Additionally, negative affect was positively related to self-defeating humor style, negative life experiences, and inversely related to social support.

TABLE 2

SIMPLE CORRELATIONS

Measure	CHIPS T1	CHIPS T2	PSS T1	PSS T2	NA T1	NA T2	HS-AFF	HS-SE	HS-AGG	HS-SD	ISEL	N LES	P LES
CHIPS T1	-	.54**	.51**	.36*	.38**	.40**	.09	-.15	.05	.15	-.19	.30*	-.10
CHIPS T2		-	.42**	.45**	.31*	.52**	.24	-.09	.10	.28	-.18	.27	-.02
PSS T1			-	.76**	.71**	.64**	-.22	-.30*	.05	.34*	-.31*	.51**	-.38**
PSS T2				-	.67**	.79**	-.01	-.21	.04	.27	-.08	.34*	-.32*
NA T1					-	.75**	-.01	-.30*	-.05	.32*	-.36*	.35*	-.39**
NA T2						-	.16	-.13	.02	.28	-.31*	.37*	.34*
HS-AFF							-	.46**	-.04	-.05	.43**	.14	.15
HS-SE								-	.15	.17	.26	-.14	.32*
HS-AGG									-	.20	.01	-.23	-.23
HS-SD										-	-.24	-.01	-.09
ISEL											-	-.12	.29
N LES												-	-.01
P LES													-

Note. T1 = Time 1; T2 = Time 2; CHIPS = Cohen Hoberman Inventory of Physical Symptoms; PSS = Perceived Stress Scale; NA = Negative Affect; H-AFF = Humor Styles Questionnaire – Affiliative; H-SE = Humor Styles Questionnaire – Self-Enhancing; H-SD = Humor Styles Questionnaire – Self-Defeating; ISEL = Interpersonal Support Evaluation List; LES N = Life Experiences Survey – Negative; LES P = Life Experiences Survey – Positive.

*$p < .05$. **$p < .01$

$N = 48$

The multiple regression analysis, with health symptoms as the dependent variable, was run using only time 1 measures, so as not to be influenced by the later manipulation. This was run for a comparison to prior research on health symptoms, humor style, and stress. Overall the model predicting health symptoms from negative affect, perceived stress, affiliative humor style, self-enhancing humor style, aggressive humor style, self-defeating humor style, social support and negative life events was significant, $F(1, 47) = 2.33, p = .04$, adjusted $R^2 = .19$. Although many variables were significantly related to health symptoms in the correlation matrix, only perceived stress was a significant predictor variable in the model ($\beta = .54, p = .02$).

A multiple regression analysis was also run using perceived stress as the criterion variable and negative affect, affiliative humor style, self-enhancing humor style, aggressive humor style, self-defeating humor style, social support and negative life events as predictors variables, $F(1, 47) = 10.44, p = .00$, adjusted $R^2 = .58$. In this instance, two predictors had significant individual beta weights, negative affect ($\beta = .58$, $p = .00$) and negative life events ($\beta = .28, p = .01$). Affiliative humor style was the only humor variable to approach significance ($\beta = -.22, p = .07$).

Humor and Self-Regulation Structured Writing Task Effects

There were a variety of topics covered in the participants' writings about stressors. The most common topics were related to college life, such as homesickness, loneliness, issues with roommates, financial hardship, time management, and coursework. In addition, many students wrote about issues with family and friends who were off-campus. Several wrote about traumatic experiences, such as the death of a loved

one. There was a rating on the record sheet for the severity of the stressor; however, due to technical problems, ratings were not available for all participants and were not analyzed.

An independent samples t-test was run for each of the following (at time 1) health symptoms, perceived stress, and negative affect in order to compare the two groups at baseline. This determined if there were significant differences in the groups before the manipulation. None of the t-tests were statistically significant: health symptoms, t (40.97) = -.80, p = .42; perceived stress, t (39.11) = -.62, p = .54; negative affect, t (40.04) = .85, p = .40.

Forty-three participants were used for the ANCOVA analyses and a listing of means and standard deviations by group for these participants is listed in Table 3. Due to the small sample size, only several of the potential covariates were included in the analyses of covariance. The same three covariates were used in each of the three analyses; these were self-enhancing humor style, affiliative humor style, and social support. Being that positive humor style was a focus of the study and varies with each individual, it was important to control for this. In addition, social support was targeted so that variations in the participants would not influence the group comparisons. It should also be noted that reported values for the ANCOVAs use the Greenhouse-Geisser correction because the comparison have a repeated measures component.

The first ANCOVA was a comparison of means for health symptoms between the modified self-regulation structured writing group and the humor component group. There was support for the hypothesis that humor would lead to increased health benefits, as

there was a significant group by time interaction, $F(1, 38) = 5.15, p = .03$ and $eta^2 = .12$. A graph of this interaction is displayed in Figure 1.

The remaining ANCOVAs for perceived stress and affect approached significance, but did not meet the criteria specified ($p < .05$). The results for perceived stress were, $F(1, 38) = 3.48, p = .07$; for negative affect, $F(1,38) = 4.04, p = .05$; and for positive affect $F(1,38) = 1.65, p = .21$. The direction of the means is congruent with the hypothesis that humor has additional benefits versus self-regulation structured writing alone; however, it cannot be ruled out that it was not due to chance. A graph of the means for perceived stress and negative affect can be viewed in Figure 2 and Figure 3.

TABLE 3

MEAN SCORES AND STANDARD DEVIATIONS FOR TIME AND GROUP

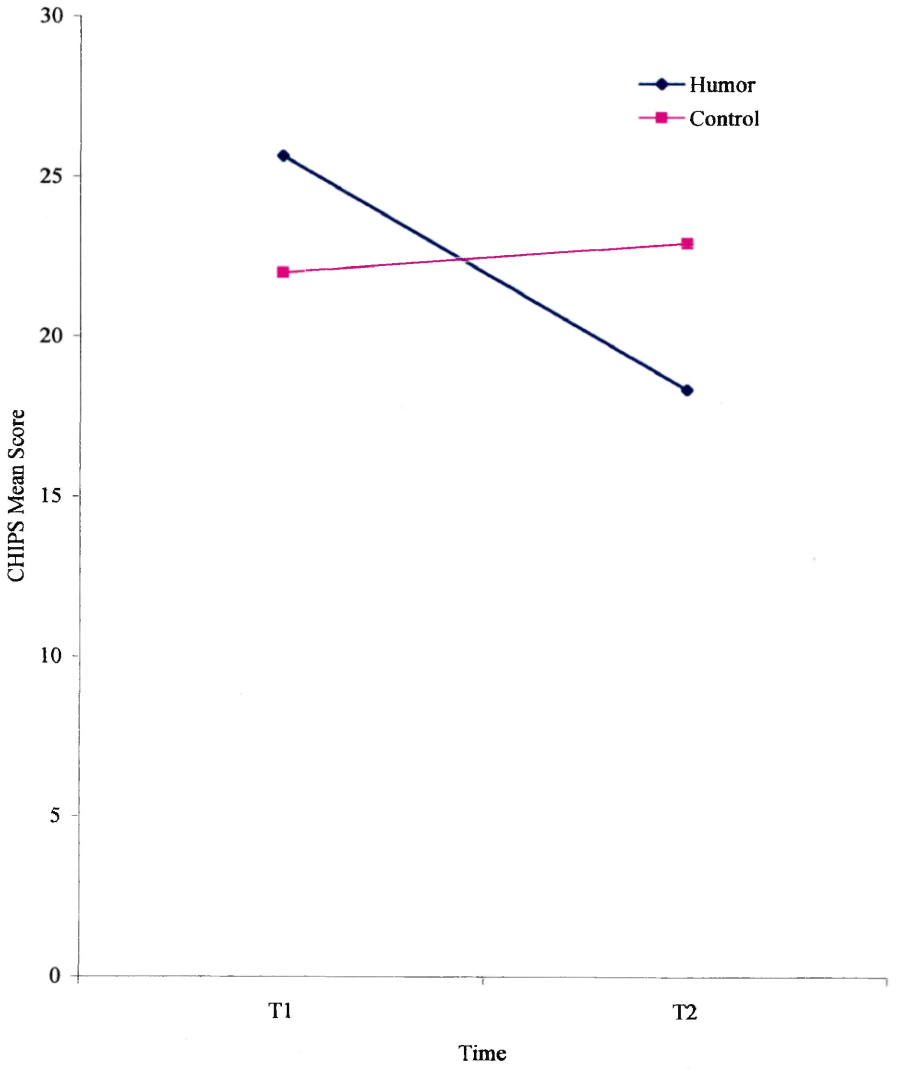
Source		T1		T2	
		M	*SD*	*M*	*SD*
CHIPS					
	Control	22.00	14.20	22.90	15.95
	Humor	25.64	15.31	18.32	13.37
PSS					
	Control	17.95	6.56	17.86	6.51
	Humor	19.09	5.51	17.23	6.68
NA					
	Control	21.62	8.20	21.86	7.42
	Humor	23.64	7.35	21.18	7.86
PA					
	Control	31.29	7.53	31.62	7.45
	Humor	34.32	5.94	32.14	6.53

Note. CHIPS = Cohen Hoberman Inventory of Physical Symptoms; PSS = Perceived Stress Scale; NA = Negative Affect; PA = Positive Affect.

$N = 43$

FIGURE 1

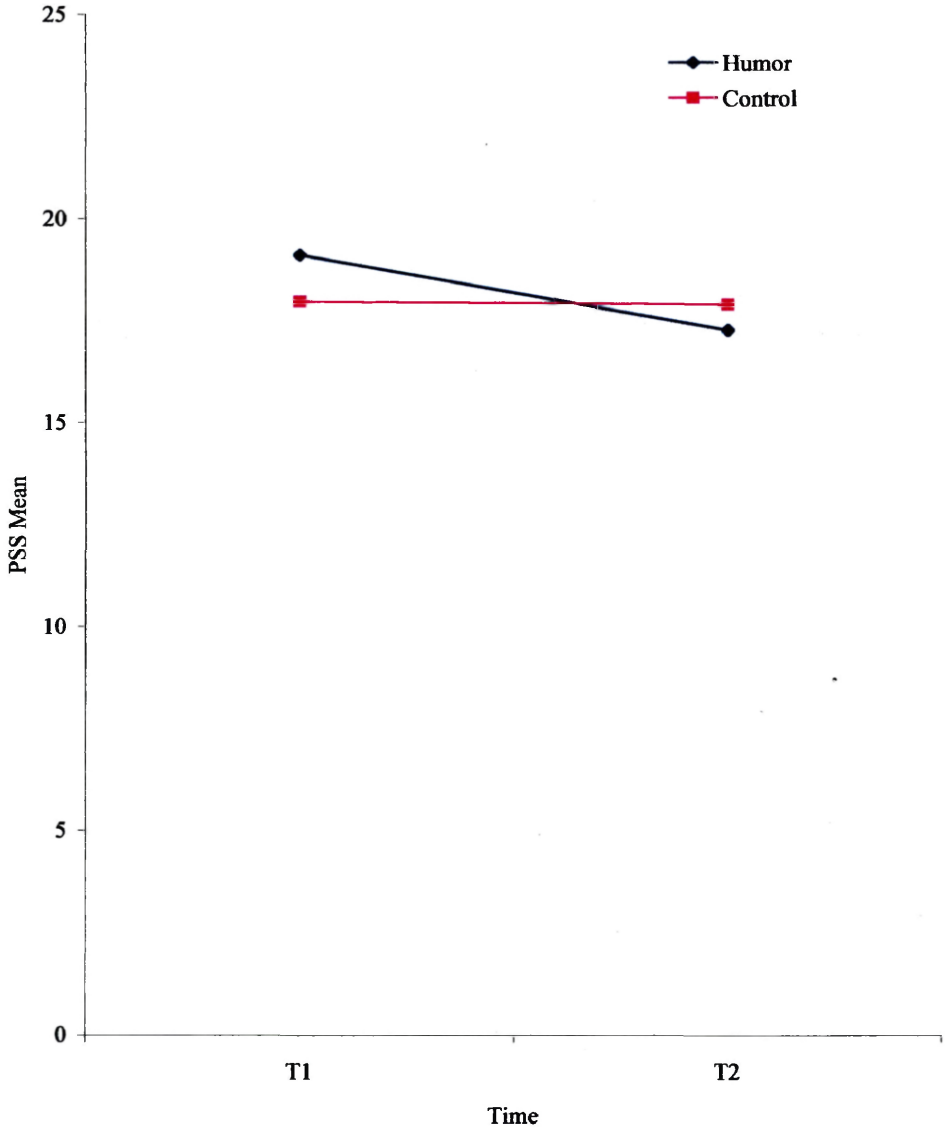
GROUP BY TIME INTERACTION FOR HEALTH SYMPTOMS



Health Symptoms (as measured by CHIPS) as a function of group and time in a sample of 43 college-aged students, with 22 participants in the humor writing condition.

FIGURE 2

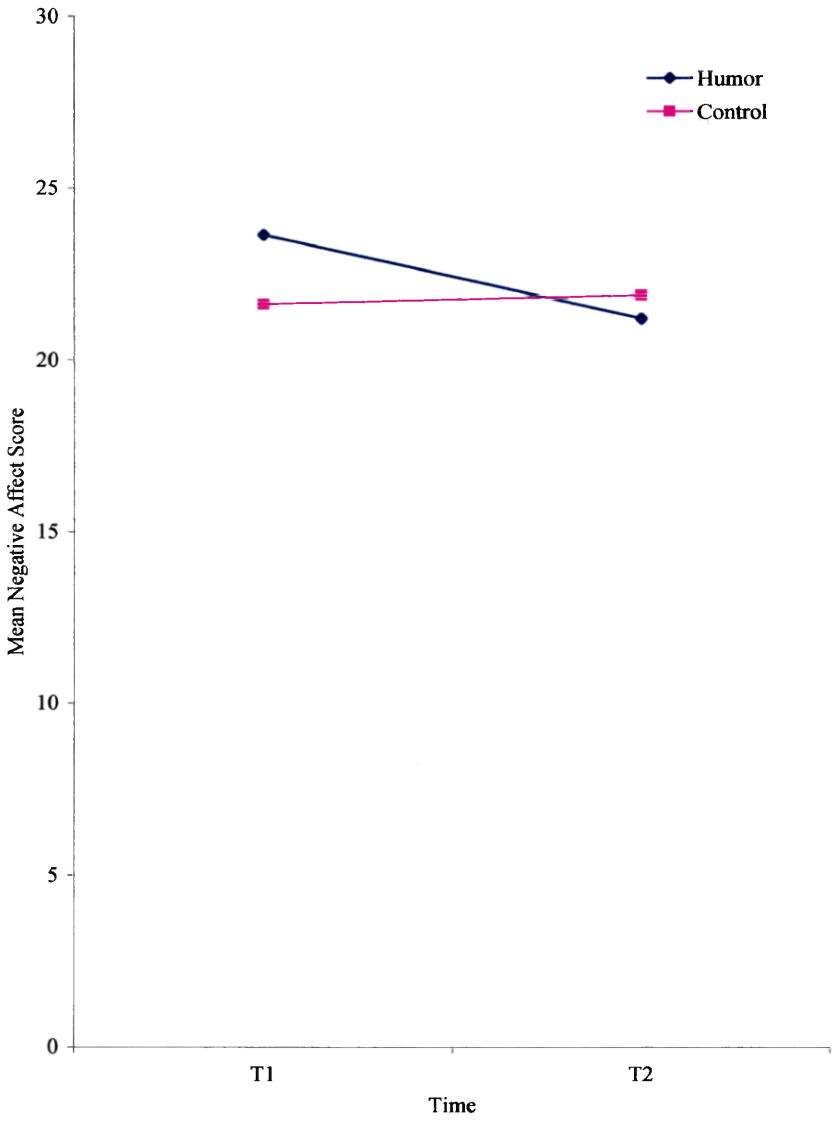
GROUP BY TIME INTERACTION FOR PERCEIVED STRESS



Perceived Stress (as measured by PSS-10 Item) as a function of group and time in a sample of 43 college-aged students, with 22 participants in the humor writing condition.

FIGURE 3

GROUP BY TIME INTERACTION FOR NEGATIVE AFFECT



Negative Affect (as measured by PANAS) as a function of group and time in a sample of 43 college-aged students, with 22 participants in the humor writing condition.

CHAPTER III

DISCUSSION

The primary aims of the current study were met in that (a) the predictor variables for health symptoms and perceived stress were examined further, and (b) an exploratory experimental study provided information on the effect of using humor as a component in a modified self-regulated structured writing task.

Review of the Hypotheses

The first hypothesis, that stress and negative affect would be significant predictors of health symptoms was partially supported. While perceived stress was a significant predictor for health symptoms (as measured by CHIPS), negative affect was not. This seems contradictory to prior research stating that negative affect is a strong component in self-reported health symptoms (Watson & Pennebaker, 1989; Martin, 2001).

It was also hypothesized that humor style and social support would predict stress. However, negative affect and negative life events were the only significant predictors, which would lend support to the idea that negative affect may have a strong component in perceived stress. Additionally, affiliative humor approached significance. Although self-enhancing humor was significantly correlated with perceived stress at time 1, it was not a significant predictor of perceived stress or health symptoms.

The second set of hypotheses involved the structured writing groups and stated that both would show a moderate improvement in health symptoms, perceived stress, and

negative affect, but that the improvement would be greater in the experimental, self-enhancing humor group. Again, the hypotheses were only partially supported. For health symptoms, there was a significant group by time interaction. Unexpectedly, the control group (modified self-regulation) showed little change from time 1 to time 2 on health symptoms, whereas, the experimental group (humor component) showed a significant decrease from time 1 to time 2.

Structured Writing

The results for the self-regulated structured writing exercise show that there was a significant difference between the modified self-regulation task and the modified self-regulation task with a humor component. However, this is the only study of its kind and it is difficult to discern whether these results are replicable or merely an aberration. It is disconcerting that there were no significant improvements in the control group; a manipulation did take place even though it served as the control for this experiment.

Moreover, research by Cameron and Nicholls (1998) showed that the self-regulation task was viable. Indeed, the findings for the area of written disclosure are quite robust. One possibility is that typing on a computer versus writing by hand may influence the outcome in some way. The standard method involves having participants write by hand, whereas the current procedure required students to email their writing tasks. The null results may also be attributable to minimizing the trauma disclosure component. In prior research, participants have been asked to write about trauma or severe stressors; however, in the current manipulation participants were merely asked to write about stressors. Greenberg & Stone (1992) found that disclosure of more severe trauma was

associated with fewer physical symptoms in months following the written disclosure. The severity of the stressors was not equivalent among the participants, some chose to write about minor issues while others chose more difficult topics.

Even with this in mind, it may be difficult to avoid this problem, as it was important that the instructions be exactly the same for both groups (except for the humor component). It does not seem reasonable to ask participants about their "deepest thoughts and feelings about coming to college" and then request that the experimental group put these traumatic events into the context of self-enhancing humor. It was decided that writing about stressors in general would be preferable. Nonetheless, there were participants who still wrote about traumatic events, for example the death of a family friend and the major depression of a sibling. Moreover, some individuals did remark that it was difficult to put such events in the context of humor.

Certainly there are great individual differences in the ability of individuals to put stressors into a humorous context, which is why positive humor styles were entered as covariates in the analyses. Perhaps it would have been better to adhere to the established guidelines and see if the participants were still able to complete the task in the experimental group.

There were no significant effects for measures of perceived stress or negative affect in the group by time comparisons. As stated, this manipulation may not have been as robust as prior research due to the changes in wording or the method used for the writing task (email versus writing by hand). It is also possible that the effect for purely psychological measures is not as strong, or it may be that participants were still

experiencing the backlash of negative emotion from completing the writing tasks. The writings tasks were done over a two-week period and post-manipulation measures were assessed directly after that time. In prior research, assessments have been done soon after the written disclosure, but have also been done at a delay as well, which is oftentimes a month or more after the writing task (e.g., Kelley, Lumley, & Leisen, 1997; Pennebaker, Colder, Sharpe, 1990; Pennebaker, Kiecolt-Glaser, & Glaser, 1988; Sloan & Marx, 2004; Smyth, Stone, Hurewitz, and Kaell (1999). It would have been of interest in this study to see if perceived stress and negative affect comparisons would have changed had there been a greater delay from the writing tasks to the second session of surveys.

Health Symptoms

In the multiple regression analysis predicting health symptoms (as measured by CHIPS) only perceived stress was a significant predictor. Although perceived stress was expected to be the best predictor, it is surprising that none of the other variables had a significant unique contribution. It may be due to multi-collinearity, in that many of the other variables have significant correlations with each other. Perhaps this is why negative affect was not a unique contributor – it is highly correlated with perceived stress. Again, this would lend evidence to the theory that negative affect is a large component of perceived stress.

Perceived Stress

In the multiple regression analysis predicting perceived stress (as measured by the PSS-10) negative affect and negative life experiences were the two significant predictors with affiliative humor style approaching significance. As stated it was unexpected that

self-enhancing humor style was not a significant predictor here. It may be that the effect size is small or moderate and there was not enough power to detect it due to the small sample size.

Humor Styles

The results related to the Humor Styles Questionnaire supported the general hypotheses of the current research, but also provide insight into the area of humor research and individual differences in humor style. In the past, there has been difficulty in examining health and humor, in part because scales did not examine various dimensions. When you combine such positive and negative styles as self-enhancing versus self-defeating, it seems reasonable that when they are not differentiated in analyses they would negate each other.

The Humor Styles Questionnaire seems to be a useful measure for research involving humor in general. In the current project, it showed that there were differential effects between the positive (self-enhancing and affiliative) and negative (self-defeating and aggressive) styles. In fact, as would be expected, positive styles had negative correlations to increased complaints about health symptoms and stress levels. In addition, the current research lends some support to the findings that the self-enhancing humor style has beneficial properties (Martin et al., 2001, Martin et al., in press); although, in this study affiliative humor style had the most positive outcomes.

Unfortunately, the relationships among humor styles and other variables were not as strong as in the author's prior research. This may be due in part to the small sample size, in the prior research the sample size was over twice the size of the current project.

As stated for perceived stress, it may be that the effect size was too small to be detected with this sample.

Social Support

The current research provides evidence that there was a relationship between social support and humor. Affiliative humor style was significantly correlated with social support. Individuals with higher social support scores had higher scores on affiliative humor style. It may be that individuals who possess such qualities are more likely to obtain and retain support as suggested by Martin (in press). Conversely, individuals who have more support may have a more positive outlook and utilize such humor styles more often.

Overall, the social support showed a stronger association to stress, rather than direct relations to health symptoms (Cohen & Hoberman, 1983). This lends support to the buffering hypothesis in that social support alone does not have significant influence. There is already strong evidence for the buffering hypothesis (Cohen & Hoberman, 1983; Cohen & Willis, 1985) and this lends additional credence to that argument.

Limitations

Although the research findings addressed the hypotheses, the results bring up many questions. Many issues involve limitations in the current project. As noted, the sample size was small. Although some published research studies in this area do have sample sizes near 50 (e.g., Pennebaker et al., 1988; Sloan & Marx, 2004); it certainly is not ideal. There were also problems with the sampling, a random sample was not feasible, and so group assignment was self-selected. Precautions were taken to keep the

groups equivalent: sessions were run on the same day close to the same time of day, t-tests showed no significant differences in the groups at time 1, and the registration for the groups was worded exactly the same.

In addition, there were many issues with the manipulation. The comparison of group by time for health symptoms was significant; however, one cannot be sure that these differences were due only to the humor component in the experimental group. The manipulation has never been tested before and may not be reliable. It may be that there were differences in the groups simply because it took longer to include an extra component. Although it was not evident from the tasks, it is possible that the participants in the humor group had to reflect more or put more effort into the study.

In addition, the humor component was intended to be related to self-enhancing humor style (as in the instructions). However, participants are not well versed in the differences in humor styles and many seemed to incorporate humor in general as opposed to self-enhancing humor in particular. The manipulation may have been more effective had these distinctions been clear.

Lastly, there are issues with self-report measures and it may be that there is an overestimation of the health-stress association due to the negative affect component in each. Such an issue raises the possibility of a confound in the study.

Future Directions

Overall, the current study fulfilled the primary goals of examining the predictors for health symptoms and perceived stress, as well as exploring the effects of adding a humor component to self-regulated written disclosure. The results of the structured

writing manipulation warrant further research. A large sample size would be essential and the procedure and instructions for the manipulation need to be refined. It may be useful to use the standard disclosure paradigm phrasing in a future project to see if there is a difference between asking individuals to write about trauma versus asking them to write about stressors. Another improvement would be to include an assessment of health symptoms, perceived stress, and negative affect one month or more after the last writing task.

In addition, each writing task could be coded for objective analysis of length, severity of the stressor, and adherence to the instructions. It would also be helpful to improve on the instructions for the humor group, so that consistency is assured for the group. Covering the four humor styles may aid participants in distinguishing between various kinds of humor.

The Humor Styles Questionnaire is relatively new (Martin et al., 2003), yet it shows great promise for research. Differentiating between various aspects of humor is essential. It is probable that self-enhancing humor, or aspects of this construct, will aid in the understanding of the stress-health paradigm.

Social support is known to be an important buffer for both stress and deleterious effects on health. Further investigation needs to be done to assess which measures are useful, and more important, what aspect of social support is being tapped into that is most beneficial to stress-buffering and sustaining health directly.

Overall, the current research shows that there is great potential for further study of relationships among health symptoms, perceived stress, and humor style. The significant

difference between the two groups, with improvements in the humor component group, gives additional support for the health benefits of humor.

APPENDIX A

Informed Consent Form

I consent to participate in this study on stressful events, conducted by Evie J. Gerber. I understand that I will be asked to fill out a set of questionnaires related to the topics of stress, humor, social support, and health. I am aware that I will need to attend two sessions and completed three (20 minute) structured writing exercise sessions on my own, spaced out over a period of two weeks. I further understand that my responses are confidential and that my name will not be associated with my responses for the report of this study.

I know that I may choose not to answer any question asked and I that I may discontinue participation at any time. I also understand that any grade or credit for participation will not be affected by my responses or by exercising any of my rights. I may report dissatisfaction with any aspect of this experiment to Professor Glenn Shean in the Psychology Department.

I am at least 18 years of age. My signature below signifies my voluntary participation in this study.

_____ _____

Date Signature

Check here if you would like to receive a synopsis of the results of the study _____

Your e-mail address: _____

Appendix B

Demographic Information

Sex: Male Female **Age**: _____

College Level: Freshman Sophomore Junior Senior Graduate

Cohen-Hoberman Inventory of Physical Symptoms (CHIPS)

Mark the number for each statement that best describes how much that problem has bothered or distressed you during that past two weeks including today. Mark only one number for each item. At one extreme, 0 means that you have **not** been bothered by the problem. At the other extreme, 4 means that the problem has been an extreme bother.

HOW MUCH WERE YOU BOTHERED BY: **Not** bothered -- - - **Extremely** bothered	0	1	2	3	4
1. Sleep problems	0	1	2	3	4
2. Weight change (+/- 5 lbs. or more)	0	1	2	3	4
3. Back pain	0	1	2	3	4
4. Constipation	0	1	2	3	4
5. Dizziness	0	1	2	3	4
6. Diarrhea	0	1	2	3	4
7. Faintness	0	1	2	3	4
8. Constant fatigue	0	1	2	3	4
9. Headache	0	1	2	3	4

10. Migraine headache	0	1	2	3	4
11. Nausea and/or vomiting	0	1	2	3	4
12. Acid stomach or indigestion	0	1	2	3	4
13. Stomach pain	0	1	2	3	4
14. Hot or cold spells	0	1	2	3	4
15. Hands trembling	0	1	2	3	4
16. Heart pounding or racing	0	1	2	3	4
17. Poor appetite	0	1	2	3	4
18. Shortness of breath	0	1	2	3	4
19. Numbness or tingling	0	1	2	3	4
20. Felt weak all over	0	1	2	3	4
21. Pains in heart or chest	0	1	2	3	4
22. Feeling low in energy	0	1	2	3	4
23. Stuffy head or nose	0	1	2	3	4
24. Blurred vision	0	1	2	3	4

25. Muscle tension or soreness	0	1	2	3	4
26. Muscle cramps	0	1	2	3	4
27. Severe aches and pains	0	1	2	3	4
28. Acne	0	1	2	3	4
29. Bruises	0	1	2	3	4
30. Nosebleed	0	1	2	3	4
31. Pulled (strained) muscles	0	1	2	3	4
32. Pulled (strained) ligaments	0	1	2	3	4
33. Cold or cough	0	1	2	3	4

Appendix C

10-item Perceived Stress Scale

Instructions: The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate with a check how often you felt or thought a certain way.

1. In the last month, how often have you been upset because of something that happened unexpectedly?
   Never Almost never Sometimes Fairly often Very often

2. In the last month, how often have you felt that you were unable to control the important things in your life?
   Never Almost never Sometimes Fairly often Very often

3. In the last month, how often have you felt nervous and "stressed?"
   Never Almost never Sometimes Fairly often Very often

4. In the last month, how often have you felt confident about your ability to handle your personal problems?
   Never Almost never Sometimes Fairly often Very often

5. In the last month, how often have you felt that things were going your way?
   Never Almost never Sometimes Fairly often Very often

6. In the last month, how often have you found that you could not cope with all the things that you had to do?
   Never Almost never Sometimes Fairly often Very often

7. In the last month, how often have you been able to control irritations in your life?
   Never Almost never Sometimes Fairly often Very often

8. In the last month, how often have you felt that you were on top of things?
   Never Almost never Sometimes Fairly often Very often

9. In the last month, how often have you been angered because of things that happened that were outside of your control?
   Never Almost never Sometimes Fairly often Very often

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?
    Never Almost never Sometimes Fairly often Very often

Appendix D

Life Experiences Survey

Listed below are a number of events that sometimes bring about change. For each event listed below **that you have experienced** in the **past year**, please rate the impact of the event. Rate **only** those events, which you have experienced. A rating of –3 would indicate an extremely negative impact, a rating of 0 suggests no impact, and a rating of +3 an extremely positive impact.

-3 extremely negative	-2 moderately negative	-1 somewhat negative	0 no impact	+1 somewhat positive	+2 moderately positive	+3 extremely positive

		Rating			Rating
1	Marriage		28	Married female: change in husband's work	
2	Detention in jail or comparable institution		29	Major change in usual type or amount of recreation	
3	Death of a spouse		30	Borrowing for a major purchase (e.g., home)	
4	Major change in sleep habits (much more or less)		31	Borrowing for a smaller purchase (e.g., TV)	
5	Death of		32	Fired from a job	
	a. mother		33	Male: wife/girlfriend having abortion	
	b. father		34	Female: having abortion	
	c. brother		35	Major personal injury or illness	
	d. sister		36	Major change in social activities (e.g., parties, movies)	
	e. grandmother		37	Change in living conditions (new home, remodeling)	
	f. grandfather		38	Divorce	
6	Major change in eating habits (much more or less)		39	Serious injury or illness of close friend	
7	Foreclosure of a mortgage or loan		40	Retirement from work	
8	Death of a close friend		41	Son or daughter leaving home	
9	Outstanding personal achievement		42	End of formal schooling	
10	Minor law violation (e.g., traffic ticket)		43	Separation from spouse due to work, travel, etc.	
11	Male: wife or girlfriend's pregnancy		44	Engagement	
12	Female: pregnancy		45	Breaking up with boyfriend or girlfriend	
13	Changed work situation (hours, responsibility, etc.)		46	Leaving home for the first time	
14	New job		47	Reconciliation with boyfriend or girlfriend	
15	Serious illness or injury		48	Beginning new school at higher academic level	
	a. father		49	Change to new school at same academic level	
	b. mother		50	Academic probation	
	c. sister		51	Being dismissed from dormitory or other residence	
	d. brother		52	Failing an important exam	
	e. grandmother		53	Changing major	
	f. grandfather		54	Failing a course	
	g. spouse		55	Dropping a course	
	h. other (specify)		56	Joining fraternity/sorority	
16	Sexual difficulties		57	Financial problems concerning school	
17	Troubles with employer (suspension, demotion, etc.			Other recent experiences that impacted your life	
18	Trouble with in-laws			List and rate.	
19	Major change in financial status		58		
20	Major change in closeness of a family member				
21	Gaining a new family member birth, adoption, etc.)				
22	Change of residence		59		
23	Marital separation				
24	Major change in church activities				
25	Marital reconciliation		60		
26	Major change in number of arguments with spouse				
27	Married male: change in wife's work out the home				

Appendix E

Humor Styles Questionnaire

People experience and express humor in many different ways. Below is a list of statements describing different ways in which humor might be experienced. Please read each statement carefully, and indicate the degree to which you agree or disagree with it. Please respond as honestly and objectively as you can. Use the following scale:

Totally Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Totally Agree
1	2	3	4	5	6	7

1. I usually don't laugh or joke around much with other people.
   1 2 3 4 5 6 7

2. If I am feeling depressed, I can usually cheer myself up with humor.
   1 2 3 4 5 6 7

3. If someone makes a mistake, I will often tease them about it.
   1 2 3 4 5 6 7

4. I let people laugh at me or make fun at my expense more than I should.
   1 2 3 4 5 6 7

5. I don't have to work very hard at making other people laugh -- I seem to be a naturally humorous person.
   1 2 3 4 5 6 7

6. Even when I'm by myself, I'm often amused by the absurdities of life.
   1 2 3 4 5 6 7

7. People are never offended or hurt by my sense of humor.
   1 2 3 4 5 6 7

8. I will often get carried away in putting myself down if it makes my family or friends laugh.
   1 2 3 4 5 6 7

9. I rarely make other people laugh by telling funny stories about myself.
   1 2 3 4 5 6 7

10. If I am feeling upset or unhappy I usually try to think of something funny about the situation to make myself feel better.
    1 2 3 4 5 6 7

11. When telling jokes or saying funny things, I am usually not very concerned about how other people are taking it.
1 2 3 4 5 6 7

12. I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults.
1 2 3 4 5 6 7

13. I laugh and joke a lot with my friends.
1 2 3 4 5 6 7

14. My humorous outlook on life keeps me from getting overly upset or depressed about things.
1 2 3 4 5 6 7

15. I do not like it when people use humor as a way of criticizing or putting someone down.
1 2 3 4 5 6 7

16. I don't often say funny things to put myself down.
1 2 3 4 5 6 7

17. I usually don't like to tell jokes or amuse people.
1 2 3 4 5 6 7

18. If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.
1 2 3 4 5 6 7

19. Sometimes I think of something that is so funny that I can't stop myself from saying it, even if it is not appropriate for the situation.
1 2 3 4 5 6 7

20. I often go overboard in putting myself down when I am making jokes or trying to be funny.
1 2 3 4 5 6 7

21. I enjoy making people laugh.
1 2 3 4 5 6 7

22. If I am feeling sad or upset, I usually lose my sense of humor.
1 2 3 4 5 6 7

23. I never participate in laughing at others even if all my friends are doing it.
1 2 3 4 5 6 7

24. When I am with friends or family, I often seem to be the one that other people make fun of or joke about.
1 2 3 4 5 6 7

25. I don't often joke around with my friends.
1 2 3 4 5 6 7

26. It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems.
1 2 3 4 5 6 7

27. If I don't like someone, I often use humor or teasing to put them down.
1 2 3 4 5 6 7

28. If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel.
1 2 3 4 5 6 7

29. I usually can't think of witty things to say when I'm with other people.
1 2 3 4 5 6 7

30. I don't need to be with other people to feel amused -- I can usually find things to laugh about even when I'm by myself.
1 2 3 4 5 6 7

31. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.
1 2 3 4 5 6 7

32. Letting others laugh at me is my way of keeping my friends and family in good spirits.
1 2 3 4 5 6 7

Appendix F

Interpersonal Support Evaluation List (ISEL) – 12 Item

This scale is made up of a list of statements each of which may or may not be true about you. For each statement check how true the statement is for you (think back over the past month).

1. If I wanted to go on a trip for a day (e.g., hiking), I would have a hard time finding someone to go with me.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

2. I feel that there is no one I can share my most private worries and fears with.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

3. If I were sick, I could easily find someone to help me with my daily chores.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

4. There is someone I can turn to for advice about handling problems with my family.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

5. If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

6. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

7. I don't often get invited to do things with others.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

8. If I had to go out of town for a few weeks, it would be difficult to find someone to look after my place.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

9. If I wanted to have lunch with someone, I could easily find someone to join me.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

10. If I was stranded 10 miles from home, there is someone I could call who could come and get me.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

11. If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

12. If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help.

_____0=definitely false _____1=probably false _____2=neutral
_____3=probably true _____4=definitely true

Appendix G

The PANAS

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past month. Use the following scale to record your answer:

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

_____	Interested	_____	Irritable
_____	Distressed	_____	Alert
_____	Excited	_____	Ashamed
_____	Upset	_____	Inspired
_____	Strong	_____	Nervous
_____	Guilty	_____	Determined
_____	Scared	_____	Attentive
_____	Hostile	_____	Jittery
_____	Enthusiastic	_____	Active
_____	Proud	_____	Afraid

Appendix H

INSTRUCTIONS FOR PARTICIPANTS A (CONTROL)

In order to complete this study you need to attend one session on March 29, 2004, do 3 (20 minute) sessions of structured writing on your own (over a period of two weeks), and attend a final session on April 12, 2004. Writing sessions can be done any time of day; however, you will need to complete one assignment every few days. E-mail reminders will be sent out and will include a record sheet.

Send in each assignment to ejgerb@wm.edu in the following time frames:
#1 – Due between 3/30 and 4/2, **#2** – Due between 4/3 and 4/7,
#3 – Due between 4/8 and 4/11.

Definition of stress for the purposes of this study: Stress is a challenge or demand on the internal balance (or homeostasis) of a person. It can be a perceived issue or an actual event.

Structured Writing Instructions:
For each structured writing exercise, include the date, start time, end time, and your W&M ID (email address without "@wm.edu"). Also, label the stressor and rate its intensity.

Write for 15 minutes on a stressful issue. The stressor can be an event, thought, and/or feeling; it can be related to school, work, or your personal life. For a final 5 minutes, write about something you can do (or think about) to cope with this stressor.

- - - -

Instruction to Participants B (HUMOR)

In order to complete this study you need to attend one session on March 29, 2004, do 3 (20 minute) sessions of structured writing on your own (over a period of two weeks), and attend a final session on April 12, 2004. Writing sessions can be done any time of day; however, you will need to complete one assignment every few days. E-mail reminders will be sent out and will include a record sheet.

Send in each assignment to ejgerb@wm.edu in the following time frames:
#1 – Due between 3/30 and 4/2, **#2** – Due between 4/3 and 4/7,
#3 – Due between 4/8 and 4/11.

Definition of stress for the purposes of this study: Stress is a challenge or demand on the internal balance (or homeostasis) of a person. It can be a perceived issue or an actual event.

Structured Writing Instructions:
For each structured writing exercise, include the date, start time, end time, and your code (same as used for surveys). Also, label the stressor and rate its intensity.

Write for 15 minutes on a stressful issue. The stressor can be an event, thought, and/or feeling; it can be related to school, work, or your personal life. For a final 5 minutes, write about something you could do (or think about) to better cope with this stressor and try to put the stressor into a self-enhancing humor context.

Self-Enhancing Humor Context Instructions:
Think about how you can put this event into a self-enhancing context using **humor**. That is, how can you look at this issue or event in a way that allows you to find some funny or humorous aspect about it. (You do **not** have to find a way to view the stressor itself as funny). This may not be an easy task - - just do the best you can. As long as it is humorous **to you** - that's all that matters.

Here are some ways you can put things into the context of self-enhancing humor:

- Cheer yourself with humor
- Exaggerate the event/thought in some way
- Think of an amusing aspect of the situation to cope with the problem
- Think of the incongruity between your environment and what your internal state

---

Example 1 (event):
Today, I had to take my 13-year old cat to the vet. I was worried that something serious was wrong. As it turns out, he did have an infection, but the prognosis is good. **Coping:** The vet gave him medicine. I will be sure to give it to him for the full 10 days. That is something I can actually do to help … **Self-Enhancing Humor**: I had to laugh to myself

at how my cat growled every time the vet used the stethoscope. Being amplified so much – it must have sounded like an earthquake!

Example 2 (thought):
Today, I saw a news story on cancer. It reminded me of my uncle's battle with melanoma; he died two months ago. It is still surprising and sad to think he is gone. **Coping**: At least, I have many good memories. For instance, we used to have fun talking about car stuff and had a great time. Thinking about that comforted me…**Self-Enhancing Humor**: We used to joke all the time about he was always late. When we had family functions, we told him and his wife to come an hour early! Thinking of that makes me smile to myself.

APPENDIX I

RECORD SHEET A (CONTROL)

Instructions:

- Use a separate record sheet for each of the 3 sessions
- Refer to the instruction sheet for additional guideline
- Please **type** your information directly on this sheet and e-mail it (as an attachment) to EJGERB@WM.EDU.

Date:		**Start Time:**		**End Time:**		**W&M ID:**	

Stressor:	

Stressor Rating:		Not at all stressful						Extremely stressful
		0	1	2	3	4	5	6
(Place an **X** in one box)								

Write about stressful issue (15 minutes):

Write about two things you could do to better cope with this stressor (5 minutes):

RECORD SHEET B (HUMOR)

Instructions:

- Use a separate record sheet for each of the 3 sessions
- Refer to the instruction sheet for additional guideline
- Please **type** your information directly on this sheet and e-mail it (as an attachment) to EJGERB@WM.EDU.

Date:		**Start Time:**		**End Time:**		**W&M ID:**	

Stressor:	

Stressor Rating:		Not at all stressful						Extremely stressful
		0	1	2	3	4	5	6
(Place an **X** in one box)								

Write about stressful issue (15 minutes):

Write about two things you could do to better cope with this stressor, then put the stressor into a self-enhancing humor context (5 minutes):

APPENDIX J

PROJECT DESIGN A (2:30 SESSION)

Session 1 **March 29, 2004** 2:30 p.m. Room 23	Structured Writing **Three (20 minute) sessions** [on your own]	Session 2 **April 12, 2004** 2:30 p.m. Room 23
Sign Consent Form Take Surveys Receive Instructions for Structured Writing	Structured writing sessions on stressful events will be done on your own Follow the instruction handout Send in writing assignments via e-mail to ejgerb@wm.edu by the following due dates: #1 – Due between March 30 and April 2 (by midnight) #2 – Due between April 3 and April 7 (by midnight) #3 – Due between April 8 and April 11 (by midnight)	Take Surveys (fewer than first session) Debriefing sheet will be available
Record sheets will be sent via email		

PROJECT DESIGN B (3:00 SESSION)

Session 1 **March 29, 2004** 3:00 p.m. Room 23	Structured Writing **Three (20 minute) sessions** [on your own]	Session 2 **April 12, 2004** 3:00 p.m. Room 23
Sign Consent Form Take Surveys Receive Instructions for Structured Writing	Structured writing sessions on stressful events will be done on your own Follow the instruction handout Send in writing assignments via e-mail to ejgerb@wm.edu by the following due dates: #1 – Due between March 30 and April 2 (by midnight) #2 – Due between April 3 and April 7 (by midnight) #3 – Due between April 8 and April 11 (by midnight)	Take Surveys (fewer than first session) Debriefing sheet will be available
Record sheets will be sent via email		

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